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1 1. A method for processing link state routing control messages by a network node,  
2 comprising:  
3 identifying predetermined types of control messages;  
4 storing each of the types of identified control messages in a respective one of a  
5 plurality of message queues;  
6 assigning a weight to each of the respective message queues; and  
7 processing the queued messages in a predetermined sequence such that each  
8 message type is allotted a predetermined amount of processing time.

1 2. The method according to claim 1, further including generating a round robin  
2 weighted polling table from the message queues.

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4 3. The method according to claim 2, wherein a number of entries in the round robin  
5 polling table corresponds to a sum of the weights assigned to the message queues.

1 4. The method according to claim 3, further including positioning the entries in the  
2 round robin polling table so as to minimize a distance between multiple entries  
3 corresponding to the same message type queue.

1 5. The method according to claim 1, wherein the predetermined types of control  
2 messages include OSPF HELLO, LSA, and LSA acknowledgement messages sent  
3 from further nodes.

1 6. The method according to claim 5, wherein the predetermined types of control  
2 messages further include OSPF HELLO refresh, LSA refresh, and LSA  
3 retransmission messages generated by the node.

- 1 7. The method according to claim 1, further including identifying at least one of the  
2 predetermined types of control messages by examining a value in a packet header  
3 of the control messages.  
4
- 1 8. The method according to claim 1, further including specifying a maximum  
2 processing time for processing a queued message during a visit to the queues.  
3
- 1 9. A method for processing link state routing control messages by a node in a  
2 network, comprising:  
3 identifying predetermined routing control message types based upon a value in a  
4 header of routing control messages received by the node;  
5 identifying predetermined routing control messages generated by the node;  
6 storing each type of identified routing control message in a corresponding one of a  
7 plurality of message queues;  
8 assigning a weight to each of the message queues;  
9 generating a round robin polling table having a number of entries corresponding to  
10 the weights assigned to the message type queues; and  
11 processing the entries in the round robin polling table such that a predetermined  
12 amount of processing power is allotted to each of the message queues.
- 1 10. The method according to claim 9, wherein the link state protocol is selected from  
2 the group consisting of OSPF and PNNI.
- 1 11. The method according to claim 9, further including minimizing a distance between  
2 entries in the polling table that correspond to the same message queue.

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1 12. A link state network, comprising:  
2 a plurality of nodes each including a node processor for identifying predetermined  
3 types of routing control messages and storing each type of identified message in a  
4 respective weighted queue such that the node processor processes each message type with  
5 a predetermined amount of processing power; and  
6 a weighting processor for assigning weights to each of the respective queues.

1 13. The network according to claim 12, wherein the node processor generates a  
2 weighted round robin polling table from the messages queues.

1 14. The network according to claim 13, wherein a number of entries in the round robin  
2 polling table corresponds to a sum of the weights assigned to the message queues.

1 15. A node, comprising:  
2 a node processor for identifying predetermined types of link state routing control  
3 messages and storing each type of identified message in a respective weighted queue such  
4 that the node processor processes each message type with a predetermined processing  
5 power.

1 16. The node according to claim 15, wherein the node processor generates a weighted  
2 round robin polling table from the message queues.

1 17. The node according to claim 16, wherein a number of entries in the round robin  
2 polling table corresponds to the weights assigned to the message queues.

1 18. The node according to claim 15, wherein the predetermined types of link state  
2 routing messages include OSPF HELLO, LSA, LSA acknowledgement, HELLO  
3 refresh, LSA refresh, and LSA retransmission messages.

1 19. The node according to claim 15, wherein the node processor includes a weighting  
2 processor for determining the weights of the respective message queues.

1 20. The node according to claim 15, wherein the node forms a part of a network that  
2 utilizes a link state protocol selected from the group consisting of OSPF and  
3 PNNI.

0974621-11600